

COMPLIANCE SAMPLING INSPECTION

Allied Chemical Corp.
(Cook County)

IL#0002640

EPA Region 5 Records Ctr.



291901

DATE:

January 17, 1980

PERSONS INTERVIEWED:

Christian Nielson, Plant Manager
William Shuya, Senior Analyst

On 1/17/80 a compliance sampling inspection was conducted of Allied Chemical's Calumet works at, 12260 S. Carondelet Avenue, Chicago 60633. These notes are supplemental to EPA Form 3560-3 (9-77).

Both outfalls, 001 and 002, cited in Allied's NPDES permit are discharges of non-contact cooling water. The Calumet plant produces various strength solutions of sulphuric acid from dilute solutions of Oleum via the Contact Process. During the course of production, large quantities of heat are generated necessitating the non-contact cooling water which make up the two discharges. Cascade-type coolers used in the past are now being replaced with a shell and tube design. This change will hopefully reduce the frequent acid spills experienced in the past.

Nielson informs us that conversion to shell and tube heat exchangers will be complete by summer of 1980.

Self-monitoring

Flow measurement - Previous inspection (9/78) of Allied by USEPA questioned the accuracy of the dye-tracer flow measurement method being employed. Jim Harris, the technical superintendant, stated that the "lithium" calibration would be carried out this spring. He said USEPA inspectors indicated that the calibration was not mandatory since no flow limitations are incorporated in their NPDES Permit.

Lab Analysis

All necessary lab analysis are conducted by Allied Chemical at their on site laboratories. William Shuya, the senior analyst, was extremely helpful and demonstrated expertise in all areas pertaining to permit requirements. No short comings were detected in sampling handling or analysis; adequate records being maintained.

Sampling

Composite samples were taken for outfalls 001, 002 as well as intake water. (These samples being collected at the appropriate manholes). The composites were the result of three samples - one per shift - in the 24 hours prior to inspection, parameters designated by the permit being analysed. Grab samples were taken at the time of inspection and split with facility representatives, the results of analysis being summerized on the following page.


Larry E. Lai, Environmental
Protection Engineer, Maywood

LCL/mm
1/23/80

SUMMARY OF SAMPLE ANALYSIS

A. 24-Hour Composite Samples

<u>Source</u>	<u>Lab Number</u>	<u>Parameter</u>	<u>Concentration</u>
001	2677	pH	8.4
	2677	Total Iron	0.4 ppm.
002	2678	pH	8.4
	2678	Total Iron	0.7 ppm
Intake	2676	pH	8.4
	2676	Total Iron	0.4 ppm

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B. Grab Samples

	<u>#001</u>	<u>#002</u>	<u>Intake</u>
pH	8.5	8.5	8.5
Phosphorus	0.04	0.03	0.03
BOD	16	16	--
Phenol	0.000	0.000	0.000
NH ₃ -N	1.7	1.7	1.8
NO ₂ -NO ₃ -N	1.2	1.4	1.2
T.D.S./E.C.	427	421	--
TSS	14	15	14
Arsenic	0.008	0.002	0.001
Barium	0.0	0.0	0.0
Boron	0.1	0.1	0.1
Cadmium	0.00	0.00	0.00
Chromium (Hex)	0.00	0.00	0.00
Chromium (Tri)	0.00	0.00	0.00
Copper	0.00	0.01	0.00
Cyanide	0.02	0.02	0.02
Total Iron	0.5	0.7	0.3
Lead	0.00	0.00	0.03
Manganese	0.10	0.09	0.08
Mercury	0.00	0.0	0.0
Selenium	0.00	0.0	0.001
Silver	0.00	0.00	0.00
Zinc	0.00	0.0	0.0
Flouride	0.66	0.68	0.66
Chloride	86	86	85
Sulfate	87	85	80
Oil	1	0	0
R.O.E.	440	440	420
Sodium	74	70	70
Potassium	9.5	9.0	--

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